M3 UL10

User Manual

Version 1.0 ©2015

M3 MOBILE

Using this manual

Using this manual

Thank you for purchasing this M3 UL10. This device will provide you with high quality data capture and mobile communication at industrial level of ruggedness.

This user manual has been specially designed to guide you through the basic functions and features of M3 UL10.

Read me first

- Please read all safety precautions and this manual carefully before using your device to ensure safe and proper use.
- This user manual is written based on current state of the device and the detail of this manual are subject to change without prior notice.
- The description on this manual is based on the default setting of the device.
- Images and screenshots are taken using current version of software.
- This user manual assumes the device is fully optioned. For the available options with your device, please contact your local distributor or visit our homepage at http://www.m3mobile.net
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- This user manual may contain technical and/or editing error.

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Instructional icons

Before you start, familiarize yourself with the below icons to help with the manual.

Warning –*situations that could cause injury to yourself or others.*

Caution –*situations that could cause damage to your device or other equipment.*

Note – *useful tips or additional information.*

Safety precaution.

- Do not use PDA while driving.
  - ✓ It can expose to serious accident.
  - ✓ Using PDA while driving may defend against law.

- Do not touch charging plug with wet hand.
  - ✓ It may cause electric shock.

- Be aware of handling battery.
  - ✓ Do not apply big impact or drill into it.
  - ✓ Avoid damping the battery or submerge into water.
  - ✓ Avoid metallic contact with the battery.

- Do not expose PDA, battery or charger to excessive heat.
  - ✓ It may cause PDA's corruption or explosion.
  - ✓ If PDA has been left in a car, as temperature increases it may cause explosion.

- Do not use PDA in event of thunder and lightning.
  - ✓ Using PDA in lightning condition can cause electric shock.

- Avoid use of PDA in restricted area.
  - ✓ It can cause radio interference.
  - ✓ Avoid use of PDA within aircraft. It can interfere with the navigational system of the vessel.
  - ✓ Avoid use of PDA within hospital. It can interfere with the medical equipment.

- Turn off PDA where explosion risk area.
  - ✓ Please obey rules of explosion risk area.
  - ✓ It is safe to turn off PDA in patrol station.

- Be aware of using head set.
  - ✓ Continuous use of head set with high volume can damage hearing ability.
  - ✓ Using headset while walking or driving, it can decrease attentiveness and cause accident.

Revision History

Version 1.0 Release date: March, 2015

- Initial release

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1. Getting Started

1.1 Product package

1.1.1 Device and Peripherals

Check **M3 UL10**package contains below items:

<M3 UL10>

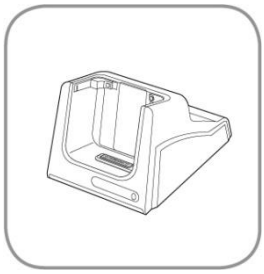
<Battery>

<Adapter>

<USB cable>

<Stylus pen>

<Quick manual>


<Cradle>

If there is any missing part or damaged item, please contact your supplier immediately.

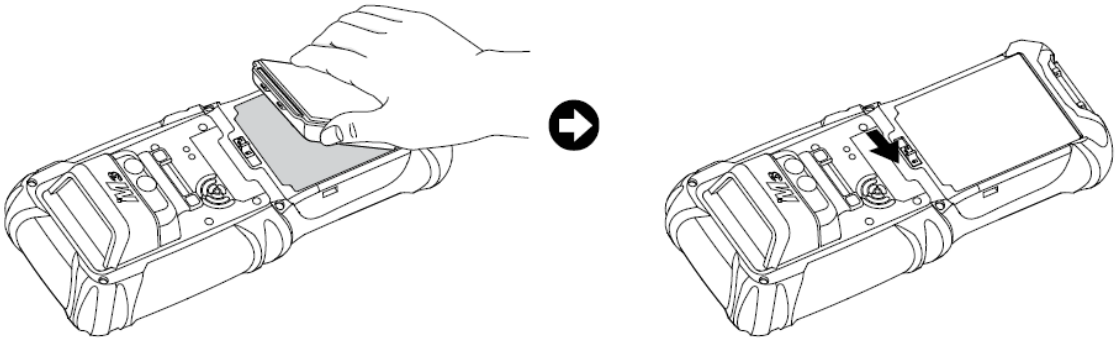
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1.2 Battery

1.2.1 How to Use

Inserting battery

- Insert the battery to the battery pack position.
- Slide the battery lock to the left to lock the battery pack.

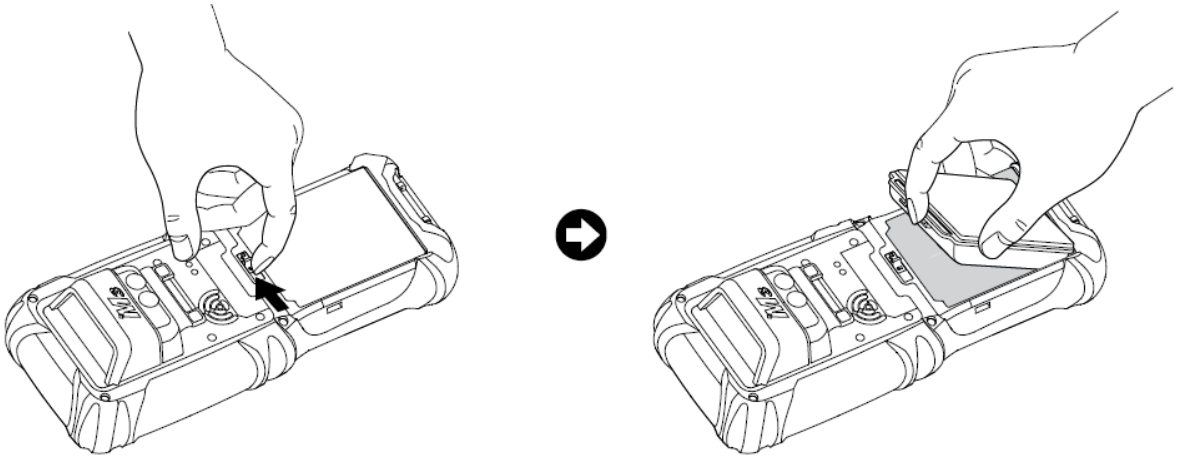


M3 UL10 *uses Li-Ion 3.7V, 4,500mAh smart battery.*

- *Using unauthorized battery may cause explosion or serious damage of the device.*
- *Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.*
- *Check the battery is placed in the correct direction.*

Removing battery

- Slide the battery lock to the right to unlock the battery pack..
- Then lift up the battery to remove from the battery position.



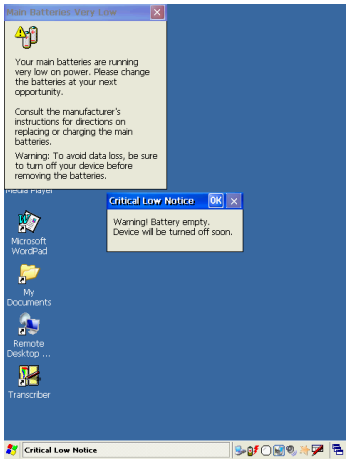
Battery contact pin may bend or damaged not pull out properly. Program error may be occurred when removing battery while any program is running. Please make sure the running program is closed before

The back-up battery would work when the battery has removed so the device goes to sleep mode.

M3 UL10 can be used for maximum 11 hours with fully charged battery. It can be different depending on users ' working environment.

1.2.2 How to charge

If the exclamation markshows up next to the battery icon, please charge the battery otherwise the device will be turned off.


Main Batteries Very Low
Your main batteries are running very low on power. Please change the batteries at your next opportunity.
Consult the manufacturer's instructions for directions on replacing or charging the main batteries.
Warning: To avoid data loss, be sure to turn off your device before removing the batteries.
Critical Low Notice
OK
Warning! Battery empty. Device will be turned off soon.
Microsoft WordPad
My Documents
Remote Desktop ...
Transcriber
Critical Low Notice

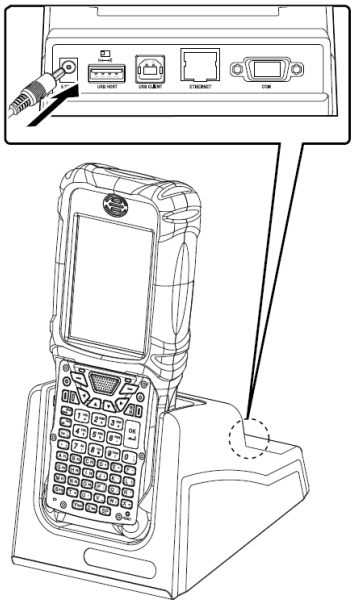
Charging the battery

- Plug in authentic AC adaptor plug to wall jack and DC jack to power connector of cradle.

- Insert PDA to device slot to start charging the PDA. Make sure that the device is connected to the cradle correctly.

AC adaptor is rated at 100~240V, 5A. Do not use the adapter outside the rated voltage.

Please use authentic cradle that M3 Mobile provides only, there might be a malfunction and/or failure of device.



If PDA is in right position, charging LED will indicate red and it will start charging the battery. It will change to green when the battery is fully charged.

If the charging LED is not turned on, please re-insert the device to the cradle.

LED Color	Description
Red	The battery is charging.
Green	The battery is fully charged.

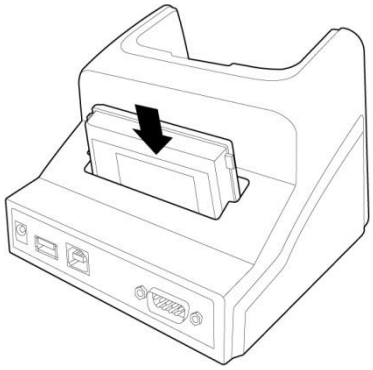
Do not exposure the battery to excessive temperature.
Acceptable user temperature range is -20°C (-4°F)~60°C (140°F)

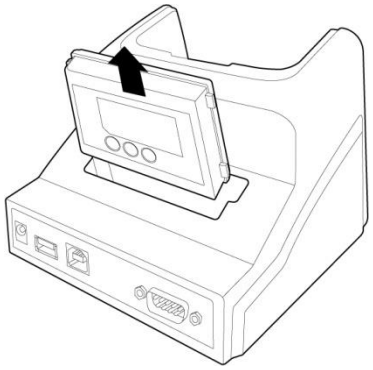
It will take approximately 4 hours to fully charge from deplete state using the supplied charging cradle.

Charging spare battery

Position the spare battery to battery pack of the cradle as indicated in the following figure.

Charging LED on the cradle indicates the charging status.



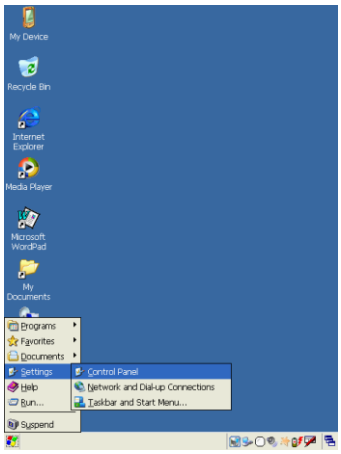


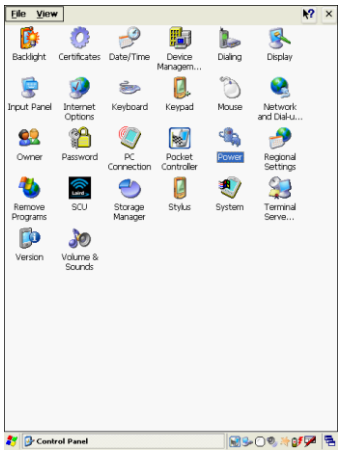
Remove the spare battery from the charging slot when charging is done.

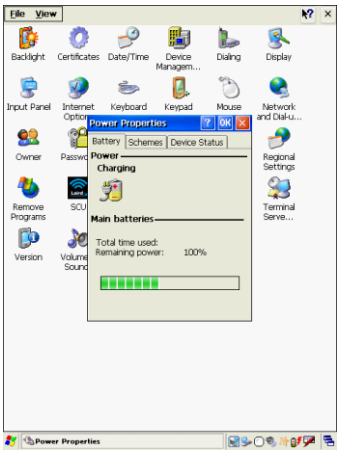
Battery attached to the PDA will be charged first than the spare battery on the cradle, when two batteries are being charged at the same time.

- *M3 Mobile recommends replacing the battery if the battery is being used for 2 years.*
- *Battery capacity decrease when charging and discharging is repeated.*

Battery information can be checked in **Start→Settings→System→Power.**





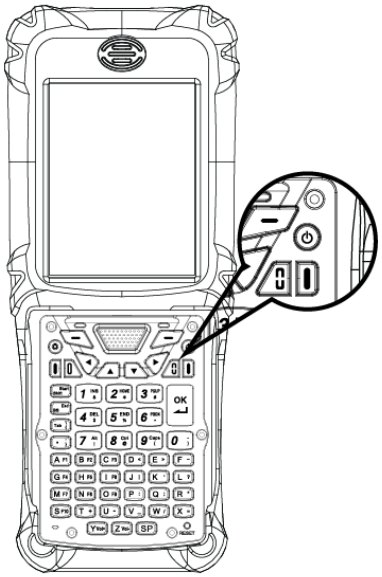


1.3 Power on & off

1.3.1 Power on

To turn on the device, attach fully charged main battery and press the power button briefly.

Empty or low level of the back-up battery may cause starting problem. If this happens press and hold the reset button for 5 seconds.



1.3.2 Power off

Press and hold the power button for more than 5 seconds to turn off the device.

1.3.3 Sleep mode

Device will automatically enter '**Sleep mode**' to save battery if there is no constant usage.

By default, backlight is turned off after 30 seconds of null state and will enter sleep mode if the device is not used for 1 minute on battery power.

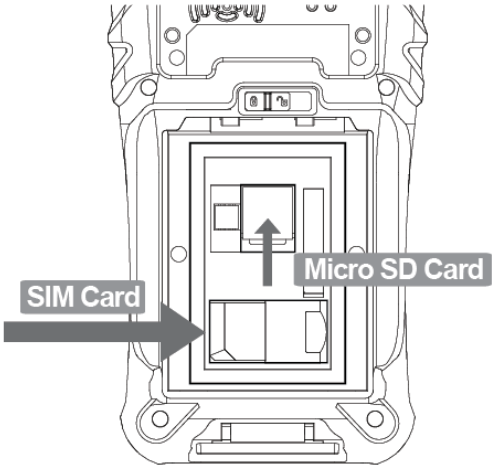
The time can be set from **Start→Settings→System→Backlight** for backlight off time and **Start→Settings→Power** for sleep mode.

In sleep mode, all modules except phone module are powered off which causes Wi-Fi to disconnect from the current AP. However, on resume, Wi-Fi is automatically re-connected to the AP normally within 10 seconds.

1.4 Memory card

1.4.1 Inserting memory card

M3 UL10 uses **MicroSD**external memory card. The external memory slot is located inside of the battery as indicated in the following image:



To insert MicroSD, first open the top cover and slide in the external memory card in the right direction until you feel a click.

- *M3 UL10 with Windows CE 6.0 operating system supports up to 32GB of external memory.*

1.4.2 Data check

Stored data can be checked in **My Device→Storage Card**.

For OS update using MicroSD, please refer to section 4.2.1 OS update via SD card.

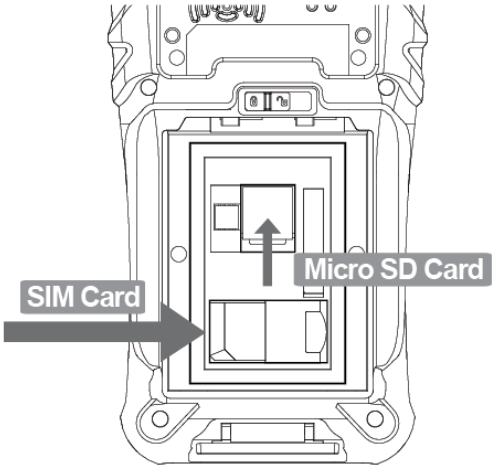
1.5 SIM card

1.5.1 Inserting SIM card

If the device is optioned with 3G network, SIM card slot is located under the battery socket.

The SIM must be authorized by the local network provider for voice or data communication over the wireless network.

To insert the SIM card, remove the battery and slide in the SIM card to the proper position.

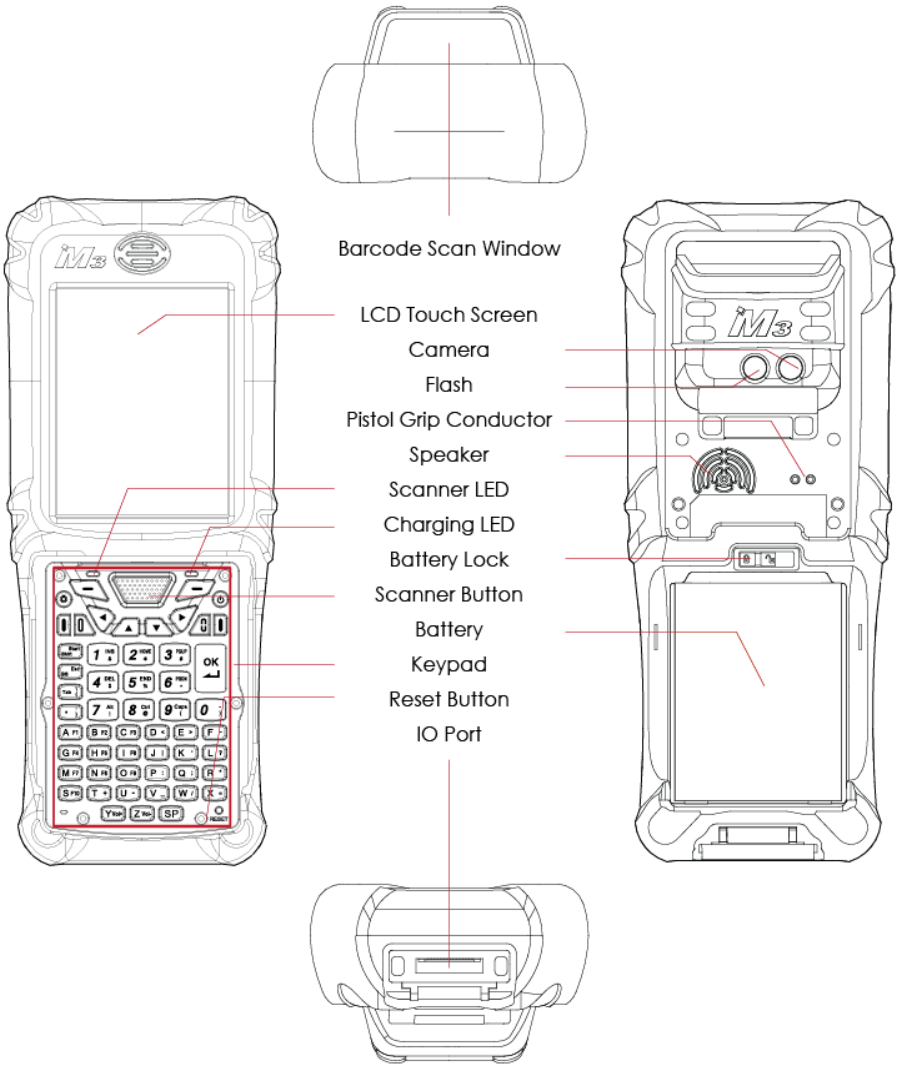


Please refer to section 3.5 Phone for more information on how to use the phone.

2. Basic usage

2.1 Features

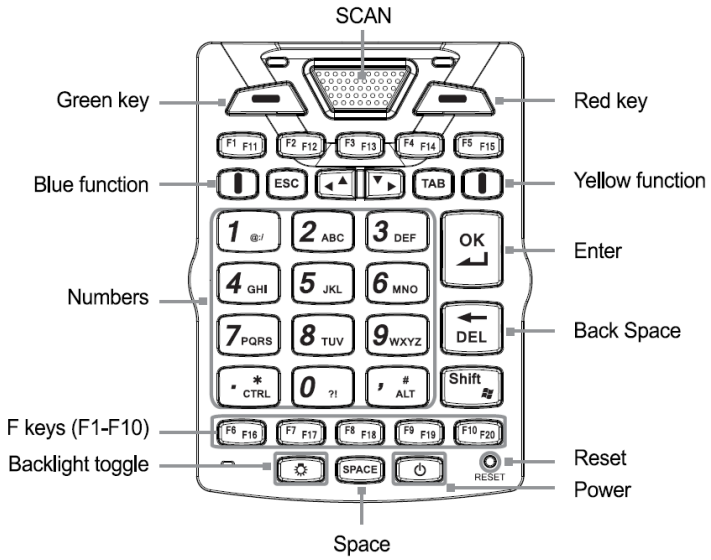
Device layout



2.2 Keypad

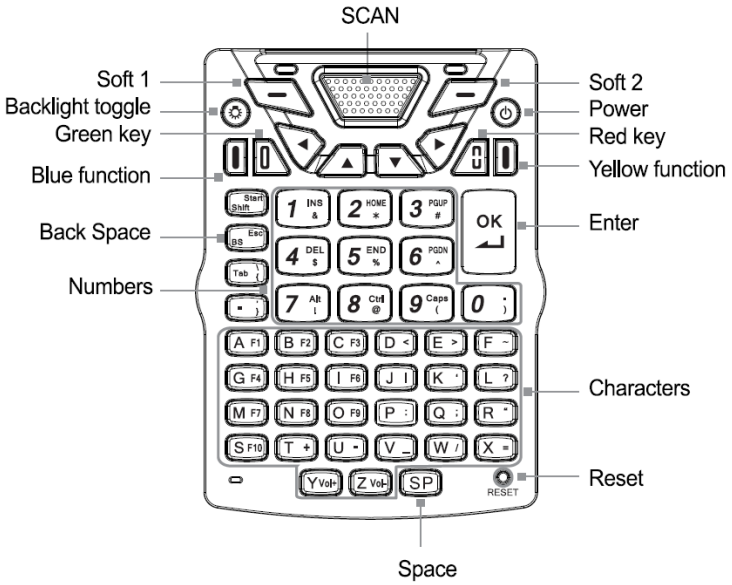
2.2.1 Buttons

M3 UL10 has two different keypad options: **37Keys** and **55Keys**.



< 37 keys >

Button	Description
Scan	Used to scan while scanner program is running.
Soft keys	Use specific command or menu.
Blue / Yellow function	Use special function keys shown on keypad as Blue or yellow. It will be printed out according to printed color(mode).
Back Space	Delete previous input data.
Enter	Input data or Confirm input data.
Space	Input space between characters.
Power	Short press: Go into Sleep mode. Long press: Turn On/OFF device.
F Keys(F1~F10)	Use programmed function.
Numbers	Input numbers.
Backlight Toggle	Turns On/Off the LCD Backlight.
Reset	Reset device.
Shift	Used to input uppercase letters.

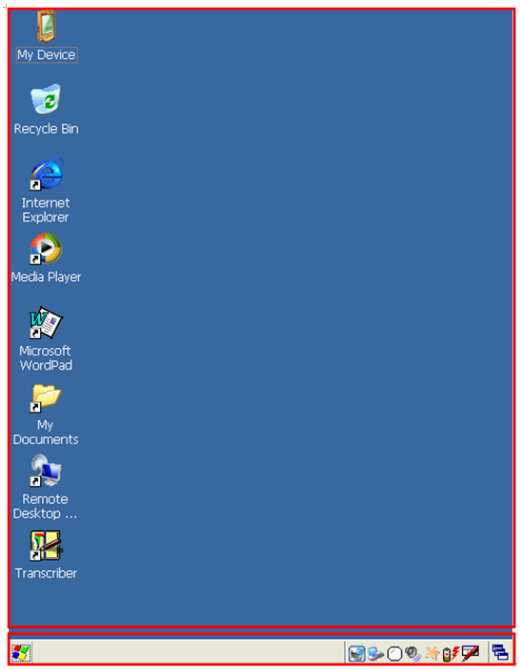


< 55 keys >

Button	Description
SCAN	Used to scan while scanner program is running.
Soft1 / Soft2	Use specific command or menu.
Characters	Used to input characters or to execute functions.
Back space	Deletes previous input data
Shift	Used to input uppercase letters.
Function	Activate specific function.
Power	Long press: Turns on / off the device. Short press: Enters Sleep / Wake up Mode.
Backlight toggle	Toggles the LCD backlight. Short press: Reduces the backlight level to 5% and/or turns on the backlight Long press: Turns off the backlight completely
Numbers	Input numbers.
Green / Redkey	Use special function keys shown on keypad as green or yellow.

2.3 Screen

When you turn on the device, you will see a screen as the following image. The screen is divided into 2 sections.



➔ Desktop

➔Task bar

2.3.1 Task bar

Task bar indicates the status of the device and 'Start' menu.

Icon	Name	Description
	Start	Shows list of programs, Favorites, Documents, Settings, Help and Run.
/	Bluetooth	Indicates Bluetooth status of connection/disconnection.
	Fast Connection	Directly connects to Turning on/off of WLAN, Backlight and Task manager.
	Volume	Adjusts volume while using M3UL10.
/	Network	Indicates connection/disconnection of network status. Information of network connection will be seen when double click.
	Input Mode	Shows input mode. Users can choose input mode between Transcriber and Keyboard with long press.
	Activated	Shows list of programs that are currently running.

	program Window	
	Input Data type	Shows data type which is currently uses to input. It is changed depending on pressing the mode change button.
	Blue key mode	Status of Blue key mode
	Yellow mode	Status of Yellow mode.
	Connectivity	Display data connectivity (Sync)
	Phone status	Displays signal strength
	Charge status	Charging battery

2.3.2 Desktop screen

There are program icons which can be added and/or deleted in home screen.

Icon	Name	Description
	My Device	Categorize and list folders and files.
	Recycle Bin	Remove and/or restore files or data. ☞ Files or data cannot be restored once they have removed from recycle bin.
	Internet Explorer	Browse Web sites or use Intranet .
	Media Player	Play digital audio and/or video files. ☞ Supports ASF, WMA, MP3, WAV files.
	Microsoft WordPad	Create WordPad file.
	My Documents	Store and show programs, files and data.
	Remote Desktop Connection	Process remote connection to desktop.
	Transcriber	Process transcriber.

2.4 Data input

2.4.1 Stylus pen

Select and execute Click on the target icon with stylus pen.

Performing selecting menu Double-click on the icon to perform, with Stylus pen.Long press on touch screen allows user to selection onparticular functions - cut, copy, delete, etc.

Selecting several contents Drag several icons to choose and/or set block.

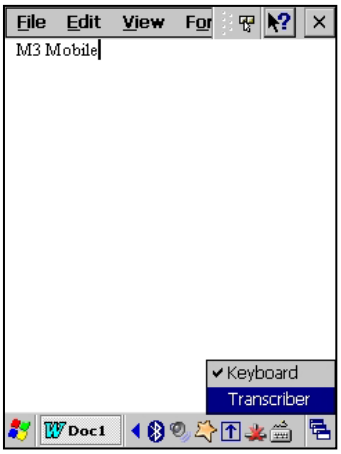
2.4.2 Keyboard

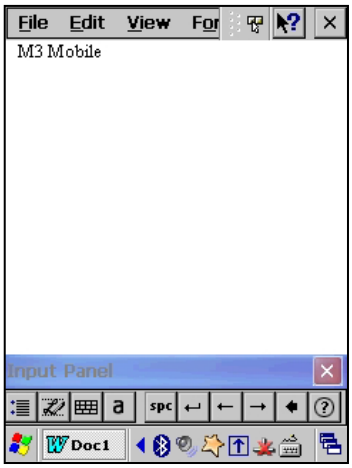
Physical keys Press the keypads on the device.

Soft input panel (SIP) Click on keyboard icon at the menu bar ( ).

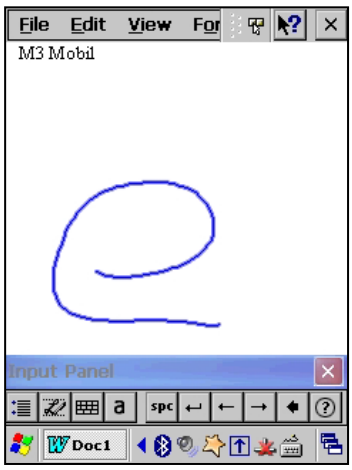
Transcriber Hand writing recognition.

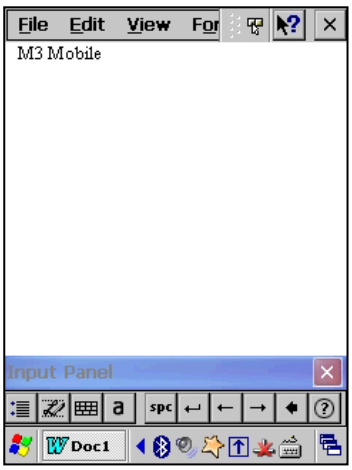
To enable transcriber, click on the up arrow when SIP is shown. When an SIP menu pops up select Transcriber.'**Transcriber Intro**' window will be show up and click '**Don't show this**', if this information is no longer needed.





Input data with stylus pen, checked data will be recognized within 2 seconds.





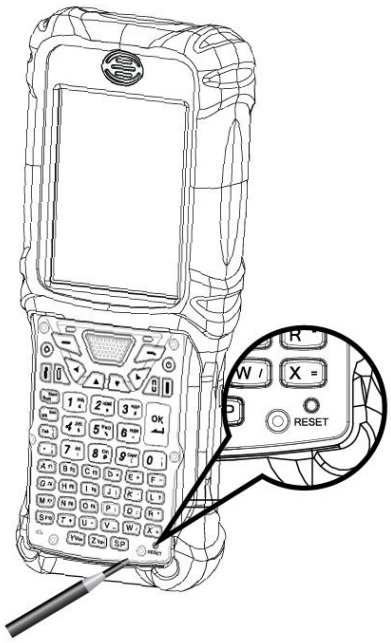
To turn off transcriber, simply select back to Keyboard from SIP menu.

2.5 Reset

2.5.1 Soft reset

When an unexpected error occurs while using the device, SOFT RESET allows your device to restart, similar to rebooting a computer. It will adjust memory allocation - all records and entries are retained after soft reset but unsaved data or files will be lost.

- Press the RESET BUTTON briefly.



2.5.2 Clean boot

When an unexpected error cannot be solved with SOFT RESET, perform CLEAN BOOT to restart the system. It will erase all data stored in the device except data stored in Flash Disk and return to its default settings.

Follow below steps to CLEAN BOOT. (+ or +)

- Turn off the device by pressing the power button more than 10 seconds.
- Press and hold Right direction button then press the power button.
- '**Clean Boot**' will be displayed on screen and press '**3**' to precede clean boot.
- Device will be initialized after clean boot that is, clean boot deletes everything except data stored in Flash Disk.

2.6 Sync with PC

Sync is simplified form of Synchronization, which enablesfiles transfer or back-up data between PC and the device.

To synchronize the device with PC, one of the following sync programs must be installed on the PC. Please download appropriate program depending on the operating system of the PC

Sync program download

Windows Mobile Device Center (Windows Vista or later):Download

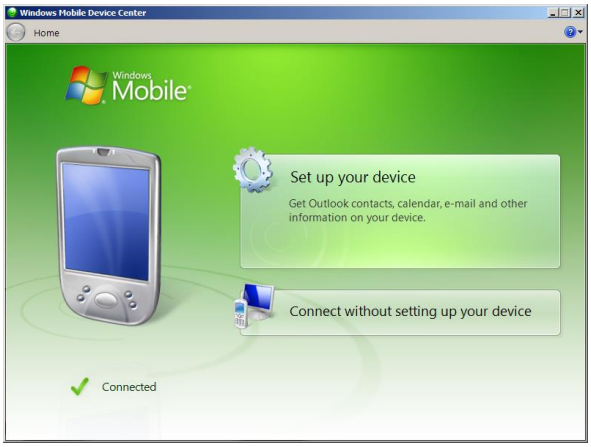
ActiveSync (Windows XP):Download

2.6.1 How to sync

To sync, please follow the steps described below.

1. Download and install WMDC (or ActiveSync) on PC.
2. Connect client port of the cradle and PC using supplied USB cable.
3. Supply AC power to the cradle.
4. Turn on the device and place it on the cradle.

After step 4, your PC will automatically detect M3 UL10 and install Pocket_PC driver. Once the driver installation is done successfully, you should be able to transfer files or back up files on the device.


Windows Mobile Device Center
Home
Windows Mobile
Set up your device
Get Outlook contacts, calendar, e-mail and other information on your device.
Connect without setting up your device
Connected

When you see a window similar to this, it means your device is connected to the PC correctly.

If Cradle and PC is connected with USB cable before installing ActiveSync, PC may not recognize Equipment

For features of WMDC or ActiveSync, please visit Microsoft homepage for more details.

If ActiveSync does not work please check followings.

- *Check USB cable is connected to cradle and PC properly.*
- *Check PDA and its LCD are turned on*
- *Check if [**Allow USB connection with this desktop computer**] is checked from **ActiveSync program menu →File →Connecting Option***

After checking all those above, try ActiveSync again or try Soft/Hard reset and ActiveSync.

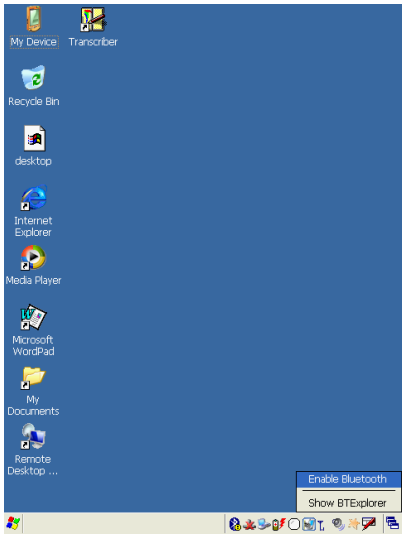
3. Application usage

3.1 Bluetooth

3.1.1 Bluetooth configuration

Turning on

Click on Bluetooth icon on task bar ( ) and choose '**Enable Bluetooth**' to turn on the Bluetooth module.Once the Bluetooth is on, the task bar icon will change to to indicate it is enabled.



To turn it off, simply disable the Bluetooth after click on icon from task bar.

M3 UL10 can use two different Bluetooth stacks:
1. *StoneStreetOne (default)*
2. *Microsoft*

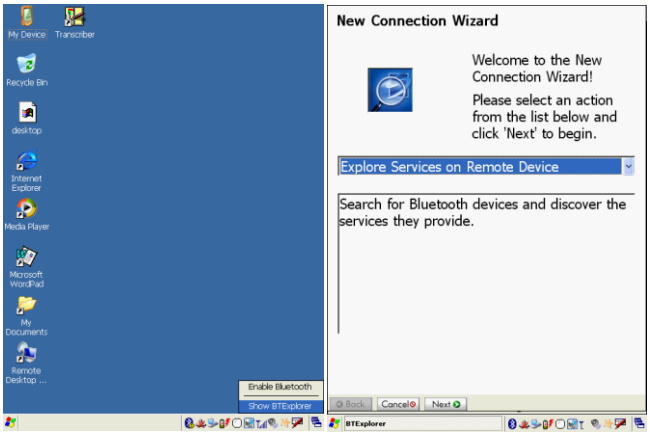
Bluetooth stack can be changed from
Start→Settings→System→BT Select
The device must go through power cycle after stack change.

3.1.2 Getting connected

Set Bluetooth Connection

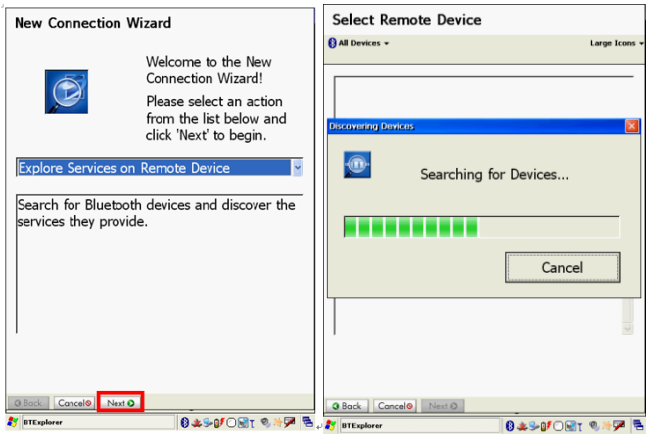
Bluetooth connections can be configured using BTExplorer. To launch BTExplorer, click on

Bluetooth icon on task bar ( ) and choose '**Show BTExplorer**'.


New Connection Wizard
Welcome to the New Connection Wizard!
Please select an action from the list below and click 'Next' to begin.
Explore Services on Remote Device
Search for Bluetooth devices and discover the services they provide.
Enable Bluetooth
Show BTExplorer

To make a new Bluetooth connection, follow steps below.

1. Click **Next** to search for connectable devices.


New Connection Wizard
Welcome to the New Connection Wizard!
Please select an action from the list below and click 'Next' to begin.
Explore Services on Remote Device
Search for Bluetooth devices and discover the services they provide.
Select Remote Device
Discovering Devices
Searching for Devices...
Cancel

2. Choose the service willing to be connected and click '**Next**' to go to next step.

Select Remote Device
0001950DC114
N-035
N-052
SW-49319FC96792
Select a Bluetooth device and click 'Next'. The list can be filtered using the toolbar. Clicking and holding anywhere in the list shows additional capabilities.

3. When '**PIN Code Request**' pops up, enter pin code which is identical with paired device, and follow the dialog to finish Bluetooth pairing.

3.2 Scanner

M3 UL10 provides 1D or 2D scanner as an optional module. Please contact your local distributor for scanner options.

3.2.1 Scanner basics

M3 Mobile provides two types of scanner program:

1. ScanEmul Keyboard wedge application which sends barcode data.
2. ScanTest Used as scanner demonstration or quick tests.

When ScanEmul is running scanner icon ( ) will appear on task bar.

1. *While ScanEmul is running, ScanTest cannot be used and vice versa.*
2. *Imager and Camera cannot run at the same time.*

For detailed description of scanner application, please refer to Application Manual.
Application Manual Download

3.2.2 Scanner use

Press scanner button toward to barcode you want to read.

Make sure the laser beam covers whole barcode to read data properly.

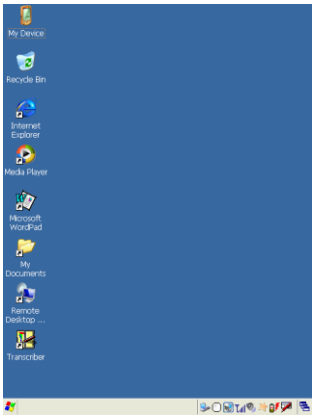
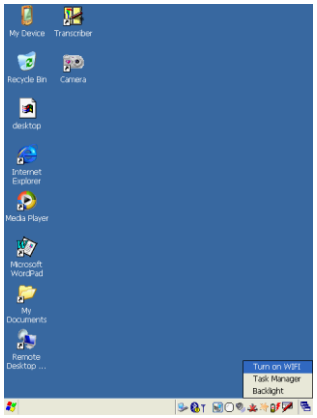
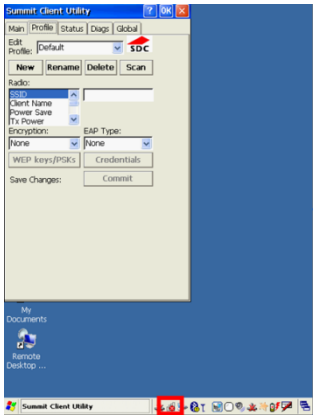
1. *Do not stare into beam.*
2. *Use of control of adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure.*
3. *LASER LIGHT - Do not stare into beam, CLASS 2 LASER PRODUCT1.0mW, MAX OUTPUT:650nm*

3.3 Wireless LAN

3.3.1 WLAN configuration

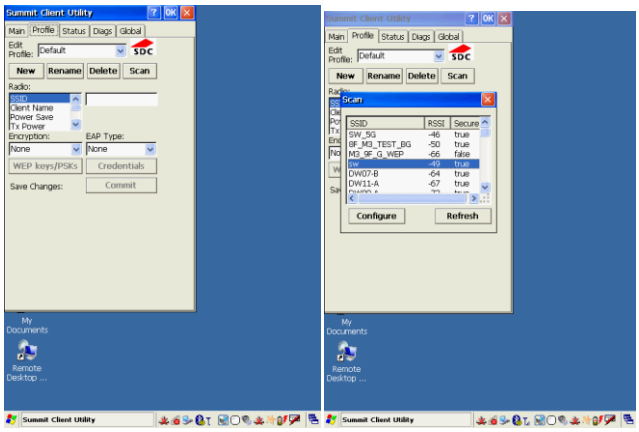
How to connect

WLAN icon (/) on task bar indicates with WLAN is on or off respectively. If WLAN is off, click on the icon and Select '**Turn on WIFI**' to turn on WLAN module. Then, WLAN status icon ( ) will appear on the task bar. Click on the icon to launch Summit Client Utility (SCU).

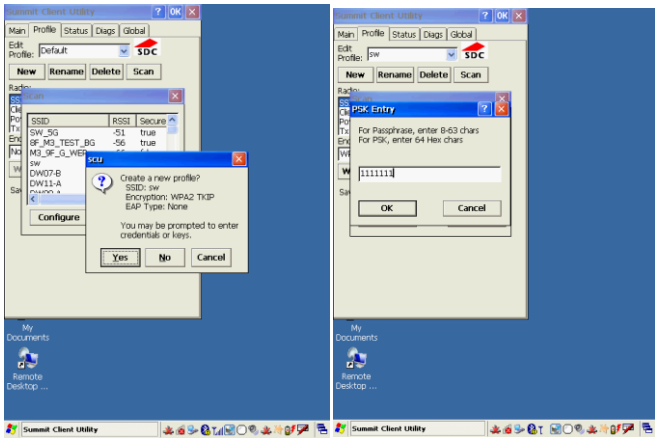




To connect to an AP, follow steps below.

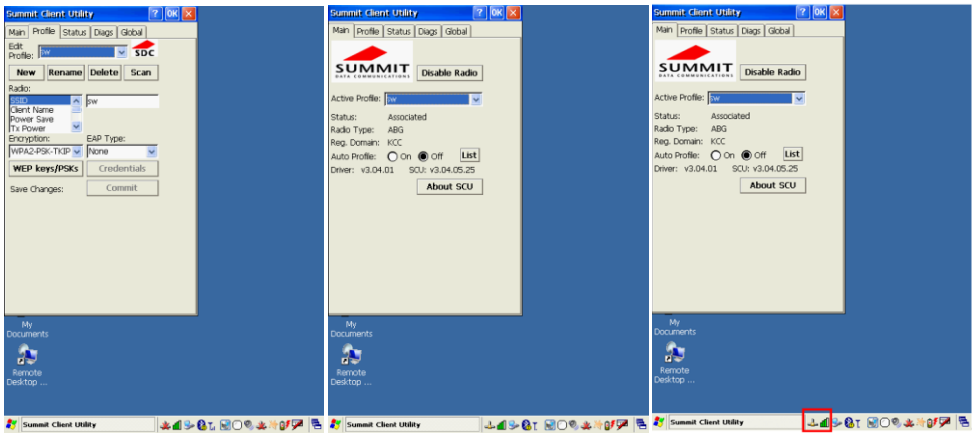
i. Choose '**Scan**' from '**Profile**' tab of SCU.



ii. From the AP list, click on the target SSID and Configure to access. Enter secure codes if applicable.



iii. Once a profile is created, click '**Commit**' to save the profile and move to the main tab to change the active profile.



iv. Check the connection status to ensure it is connected properly.

Entering sleep mode while the WLAN is connected will cause connection drop. However, upon wake up, it will automatically re-connect to the AP within 10 seconds.

4. Advanced usage

4.1 Software development kit (SDK)

M3 Mobile provides SDK to software developers to help them with their development.

Supported development tools

- Visual Studio 2005 (8.0) (.NET Framework 2.0) or higher
- Visual C++, Visual C#
- Visual Basic .NET (scanner only)

Development System Requirements

- Pentium – compatible 500MHz processor or better
- Microsoft Windows 98 / ME / 2000 / 2003 / XP
- ActiveSync

Development Platform Requirements

- Windows Mobile Platform SDK must be installed on your computer to be able to develop software using this SDK.

4.1.1 SDK Package

M3 Mobile provides SDK as a package for each product. Please download appropriate SDK package from online support page (http://itc.m3mobile.net)

In the package the following are included:

i. SDK for each module
: Bluetooth, Scanner (1D/2D), WLAN, SYSTEM

ii. Sample test program for each module.

iii. SDK Manual
: Introduction, Tutorial, Sample sources, References

4.1.2 OS Update

To improve the performance and quality of the product, M3 Mobile can release later version of OS than the one that are currently installed on your device.

To check OS version of your device, please go to
Start → Settings → Control Panel → Version and check OS Version.

Other device information is either unknown or not-set because this screen image is a sample image to help your understanding.

The latest officially version of OS can be checked on M3 Mobile support webpage.

M3 UL10 provides 2 ways of updating the OS:

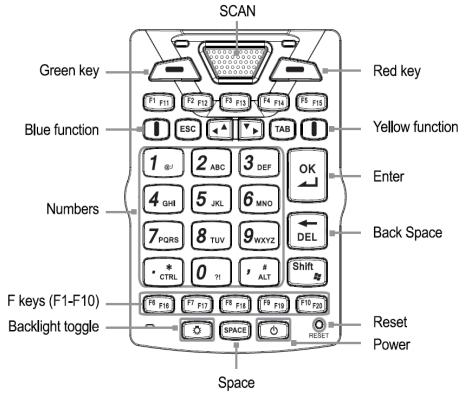
i. Using MicroSD

ii. Using cradle with USB connection

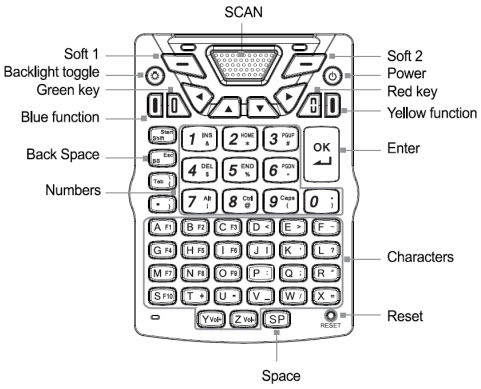
For detailed description of OS update method, please refer to M3 FAQ document 'OS' section. FAQ Download

4.1.3 Key customization

M3 UL10 provides freedom to user with key customization.



< 37 keys >



< 55 keys >

Key customization can be done in 3 ways:

i. GUI method
[Start] → [Settings] → [Control Panel] → [Keypad]

ii. M3.ini

iii. Changing registry

In fact, with alpha-numeric version, all physical buttons except the power button are customizable with registry change method.

Please refer to M3 FAQ document 'Keypad' section for more details.
FAQ Download

5. Etc

5.1 Specification

Physical Characteristics	
Dimension (W x H x D) mm/inch	Head 82 x 209 x 56.8 mm 3.2 x 8.2 x 2.2 inch
	Handle 73 x 209 x 36.3 mm 2.8 x 8.2 x 1.4 inch
Weight	623g / 22 oz (including battery)
Display	3.5" VGA TFT LCD, 480 x 640 pixels
Battery	Li-ion, 3.7 V, 4500 mA Smart battery

Performance Characteristics	
Multi-processor	**CPU** Cortex-A8 833MHz
	Radio ARM9 series
OS	Windows CE 6.0
Memory	**RAM** 256MB
	ROM 1 GB
	Card Slot Micro SD, up to 32 GB
Interface	USB Client 2.0

User Environment	
Temperature	**Operating** -20~50 ℃ / -4~122 °F
	Storing -30~70 ℃ / -22~158 °F
Humidity	93% non-condensing
Tumble test	1,000 1.6ft./0.5m tumbles (2,000 drops)
Drop test	1.8m / 6ft.
IP rating	IP65

Wireless radio options	
WWAN (Data only)	**2G Network** GPRS / EDGE (900 / 1800 MHz)
	3.8G Network WCDMA band (2100 MHz)
WLAN	IEEE 802.11 a/b/g
Security	WEP, WPA, WPA2, TKIP, AES, EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP- TLS, PEAP-MSCHAPv2, LEAP, CCXv4
Bluetooth	Class II, v2.0 with EDR
GPS	AGPS

General options	
Scanner	1D
Camera	3.2 MP AF
Keypad	37 keys, 55 keys

※ M3 UL10 does not support the voice call.

Certification

CE 0678 ⓘ

Windows Mobile™

Bluetooth™ SUMMIT wavelink SAP Partner

5.2 Services

If you experience any trouble while using our product, you can visit **M3 Service center** or send enquires to our **Information & Technology Center web page**(http://itc.m3mobile.net), we will do our best to solve your trouble as soon as we can.

M3 FAQ document can help you with troubleshooting.

For any enquires about business program, please contact program provider for faster service.

5.2.1 Contact details

Headquarter

M3 Bldg., 735-45, Yeoksam-Dong, Gangnam-Gu, Seoul, 135-080, Korea
Tel: +82 2 574 0037 Fax: +82 2 556 0156

www.m3mobile.net, sales@m3mobile.co.kr

Manufacturing Center

Chun-ui Techno Park 201-610, 202, Chunui-Dong, WonMi-Gu, Buchoen, Gyeonggi-Do, 420-857, Korea

Tel: +82 32 623 0030, Fax: +82 32 623 0035

Information & Technology Web page (Online Support)

http://itc.m3mobile.net, it@m3mobile.co.kr

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